Table des matières

Epilepsy

Epilepsie : évaluation de l'acupuncture

Articles connexes: - acupuncture expérimentale -

1. Systematic Reviews and Meta-Analysis

1.1. Generic Acupuncture

1.1.1. Su 2024 (pediatric epilepsy)

Su HW, Chen HT, Kao CL, Hung KC, Lin YT, Liu PH, Lin CM, Chen IW. Efficacy and safety of herbal medicine combined with acupuncture in pediatric epilepsy treatment: A meta-analysis of randomized controlled trials. PLoS One. 2024 May 9;19(5):e0303201.
https://doi.org/10.1371/journal.pone.0303201

Objective	To evaluate the efficacy and safety of herbal medicine and acupuncture combination for pediatric epilepsy treatment.
Methods	Databases were searched from their interception until October 2023 to identify randomized controlled trials focusing on the therapeutic efficacy of herbal medicine-acupuncture combination (intervention group) for pediatric epilepsy. The primary outcome was the risk of treatment failure, whereas the secondary outcomes included the risk of post-treatment electroencephalogram (EEG) abnormalities and adverse events. Subgroup analyses were conducted based on the type of herbal compound formulas. Meta-regression analysis was conducted to examine the influence of patient demographics and clinical history on the therapeutic efficacy of herbal medicine-acupuncture combination for pediatric epilepsy. To assess the cumulative evidence, trial sequential analysis (TSA) was performed.
Results	The analysis included **10 trials involving a total of 882 pediatric patients**. Meta-analysis revealed that the intervention group had a lower risk of treatment failure than the control group (risk ratio [RR] = 0.3, 95% confidence interval [CI]: 0.19-0.47, P<0.00001, I2 = 0%, 10 trials). Subgroup analyses showed that therapeutic efficacy was consistent among the different herbal compound formulas. Meta-regression analysis revealed that the efficacy of the treatments did not significantly vary with patient age, male sex, and duration of seizure history. TSA suggested that herbal medicine-acupuncture combination exerted a robust and conclusive effect on seizure treatment. Although the combined used of herbal medicine and acupuncture was not associated with a lower risk of post-treatment EEG abnormalities (RR = 0.82, 95%CI:0.6-1.11, P = 0.2, 3 trials), the risk of adverse events was reduced (RR = 0.27, 95%CI:0.18-0.41, P<0.00001, 4 trials).
Conclusion	The meta-analysis suggested that combined use of herbal medicine and acupuncture is a promising and safe clinical approach for pediatric epilepsy treatment. Further large-scale studies are necessary to conclusively determine the efficacy and safety of herbal medicine and acupuncture in pediatric epilepsy treatment.

1.1.2. Xue 2023

Xue H, Zeng L, He H, Xu D, Ren K. Effectiveness of acupuncture as auxiliary combined with Western medicine for epilepsy: a systematic review and meta-analysis. Front Neurosci. 2023 Jul 20;17:1203231. https://doi.org/10.3389/fnins.2023.1203231

Background	Although more and more clinical studies have shown that acupuncture as an auxiliary combined with Western medicine is effective in the treatment of patients with epilepsy, no systematic reviews of acupuncture as a treatment for epilepsy have been published. Hence, we conducted this meta-analysis to evaluate the effect of acupuncture treatment on patients with epilepsy.
Methods	This study retrieved randomized controlled trials (RCTs) of acupuncture treatment for epilepsy from various electronic databases including PubMed, Embase, Cochrane Library, China National Knowledge Infrastructure, Chinese BioMedical Literature Database, and Wangfang database. These studies evaluated the effectiveness of acupuncture as an auxiliary treatment combined with Western medicine for patients with epilepsy. The methodological quality of the studies was assessed using the Cochrane Handbook for Systematic Reviews of Interventions.
Results	A total of **17 RCTs involving a total of 1,389 participants** were included. The results showed that acupuncture combined with Western medicine improved the effective rates of treatment (OR: 4.28; 95% CI: 3.04-6.02; $p < 0.001$), and reduced the seizure frequency of patients (SMD: -3.29; 95% CI: -3.51 to -3.07; $p < 0.001$) and the EEG discharge frequency (SMD: -5.58; 95% CI: -7.02 to -4.14; $p < 0.001$). Regarding the quality of life and adverse events, the acupuncture group was superior to the control group in improving the overall quality of life of patients with epilepsy (SMD: 14.41; 95% CI: 12.51-16.32; $p < 0.001$) and decreased adverse events (OR: 0.38; 95% CI: 0.23-0.63, $p < 0.001$).
Conclusion	The results of the analysis suggested that acupuncture combined with Western medicine is probably helpful in patients with epilepsy, but strong supportive data are not yet available. Given that this study is based on a low to moderate evidence-based analysis, the conclusions should be viewed with caution.

1.1.3. Deng 2018 ☆

Deng BW, Luo XZ, Tang CZ, Zhang X. [A Meta-analysis of the Effectiveness of Acupuncture in the Treatment of Epilepsy]. Acupuncture Research. 2018;43(4):263-8. [166187].

Objective	To evaluate the efficacy and safety of acupuncture in the treatment of epilepsy.
Methods	We first collected research data about randomized control trials (RCTs) of acupuncture treatment of epilepsy from databases CNKI, CBM, VIP and Wanfang using key words “(acupuncture)”, “(epilepsy)“or ”(epilepsy)“or ”(epilepsy)”, and from PubMed, Google Scholar, and Cochrane Library using key words “acupuncture” “needling” “prod” “epilepsy” “epilepsies” or “seizure disorder” or “simple seizure” from the date of database construction to May 5, 2017. Then, two researchers extracted the study outcomes and evaluated the evidence qualification of the research data independently using GRADE profile 3.6 software and analyzed the primary outcome indexes using RevMan 5.3 and STATA 14.0.

Results	**Eleven articles containing 827 cases** were included in the Meta-analysis. We found that acupuncture or acupuncture in combination with other conventional drugs had a significantly better efficacy than conventional drugs in the treatment of epilepsy [OR=3.94, 95%CI (2.49, 6.24), Z=5.85, P<0.000 01]. There was a statistical heterogeneity (P=0.04, I2=60%), and the Meta-analysis was not feasible for the studies of acupuncture vs medication. Combination of acupuncture and Chinese traditional drugs was significantly better than simple Chinese traditional drugs [OR = 4.61, 95%CI (2.18, 9.74), Z=4.01, P<0.000 1], and combination of acupuncture and wes-tern medicines was obviously better than simple western medicines [OR=3.07, 95%CI(1.24, 7.65), Z=2.41, P=0.02] in the treatment of epilepsy.
Conclusion	Acupuncture therapy may have a positive effect in the treatment of epilepsy but the conclusion needs further verification due to very fewer high-quality and well-designed RCTs found at the present.

1.1.4. Jackson 2015 Ø

Jackson Cf, Makin Sm, Marson Ag, Kerr M. Non-pharmacological interventions for people with epilepsy and intellectual disabilities. Cochrane Database Syst Rev. 2015.[183352]

Background	Approximately 30% of patients with epilepsy remain refractory to drug treatment and continue to experience seizures whilst taking one or more antiepileptic drugs (AEDs). Several non-pharmacological interventions that may be used in conjunction with or as an alternative to AEDs are available for refractory patients. In view of the fact that seizures in people with intellectual disabilities are often complex and refractory to pharmacological interventions, it is evident that good quality randomised controlled trials (RCTs) are needed to assess the efficacy of alternatives or adjuncts to pharmacological interventions.This is an updated version of the original Cochrane review (Beavis 2007) published in The Cochrane Library (2007, Issue 4).
Objectives	To assess data derived from randomised controlled trials of non-pharmacological interventions for people with epilepsy and intellectual disabilities.Non-pharmacological interventions include, but are not limited to, the following.• Surgical procedures.• Specialised diets, for example, the ketogenic diet, or vitamin and folic acid supplementation.• Psychological interventions for patients or for patients and carers/parents, for example, cognitive-behavioural therapy (CBT), electroencephalographic (EEG) biofeedback and educational intervention.• Yoga.• **Acupuncture**.• Relaxation therapy (e.g. music therapy).
Search Methods	For the latest update of this review, we searched the Cochrane Epilepsy Group Specialised Register (19 August 2014), the Cochrane Central Register of Controlled Trials (CENTRAL) via CRSO (19 August 2014), MEDLINE (Ovid, 1946 to 19 August 2014) and PsycINFO (EBSCOhost, 1887 to 19 August 2014). Selection Criteria: Randomised controlled trials of non-pharmacological interventions for people with epilepsy and intellectual disabilities. Data Collection And Analysis: Two review authors independently applied the inclusion criteria and extracted study data.
Main Results	**One study** is included in this review. When two surgical procedures were compared, results indicated that corpus callosotomy with anterior temporal lobectomy was more effective than anterior temporal lobectomy alone in improving quality of life and performance on IQ tests among people with epilepsy and intellectual disabilities. No evidence was found to support superior benefit in seizure control for either intervention. This is the only study of its kind and was rated as having an overall unclear risk of bias. The previous update (December 2010) identified one RCT in progress. The study authors have confirmed that they are aiming to publish by the end of 2015; therefore this study (Bjurulf 2008) has not been included in the current review.

Authors' Conclusions	This review highlights the need for well-designed randomised controlled trials conducted to assess the effects of non-pharmacological interventions on seizure and behavioural outcomes in people with intellectual disabilities and epilepsy.

1.1.5. Cheuk 2014 Ø

Cheuk DK, Wong V. Acupuncture for epilepsy. Cochrane Database Syst Rev 2014. [160610]

Background	Acupuncture is increasingly used in people with epilepsy. It remains unclear whether existing evidence is rigorous enough to support its use. This is an update of a Cochrane review first published in 2008.
Objectives	To determine the effectiveness and safety of acupuncture in people with epilepsy.
Methods	Search methods: We searched the Cochrane Epilepsy Group Specialised Register (June 2013) and the Cochrane Central Register of Controlled Trials (CENTRAL) in The Cochrane Library (2013, Issue 5), MEDLINE, EMBASE, CINAHL, AMED and other databases (from inception to June 2013). We reviewed reference lists from relevant trials. We did not impose any language restrictions. Selection criteria: Randomised controlled trials (RCTs) comparing acupuncture with placebo or sham treatment, antiepileptic drugs or no treatment; or comparing acupuncture plus other treatments with the same other treatments, involving people of any age with any type of epilepsy. Data collection and analysis: We used standard methodological procedures expected by The Cochrane Collaboration.

Main results	We included **17 RCTs with 1538 participants** that had a wide age range and were suffering mainly from generalized epilepsy. The duration of treatment varied from 7.5 weeks to 1 year. All included trials had a high risk of bias with short follow-up. Compared with Chinese herbs, needle acupuncture plus Chinese herbs was not effective in achieving at least 50% reduction in seizure frequency (80% in control group versus 90% in intervention group, RR 1.13, 95% CI 0.97 to 1.31, 2 trials; assumed risk 500 per 1000, corresponding risk 485 to 655 per 1000). Compared with valproate, needle acupuncture plus valproate was not effective in achieving freedom from seizures (44% in control group versus 42.7% in intervention group, RR 0.97, 95% CI 0.72 to 1.30, 2 trials; assumed risk 136 per 1000, corresponding risk 97 to 177 per 1000) or at least 50% reduction in seizure frequency (69.3% in control group versus 81.3% in intervention group, RR 1.34, 95% CI 0.52 to 3.48, 2 trials; assumed risk 556 per 1000, corresponding risk 289 to 1000 per 1000) but may have achieved better quality of life (QOL) after treatment (QOLIE-31 score (higher score indicated better QOL) mean 170.22 points in the control group versus 180.32 points in the intervention group, MD 10.10 points, 95% CI 2.51 to 17.69 points, 1 trial). Compared with phenytoin, needle acupuncture was not effective in achieving at least 50% reduction in seizure frequency (70% in control group versus 94.4% in intervention group, RR 1.43, 95% CI 0.46 to 4.44, 2 trials; assumed risk 700 per 1000, corresponding risk 322 to 1000 per 1000). Compared with valproate, needle acupuncture was not effective in achieving seizure freedom (14.1% in control group versus 25.2% in intervention group, RR 1.75, 95% CI 0.93 to 3.27, 2 trials; assumed risk 136 per 1000, corresponding risk 126 to 445 per 1000) but may be effective in achieving at least 50% reduction in seizure frequency (55.3% in control group versus 73.7% in intervention group, RR 1.32, 95% CI 1.05 to 1.66, 2 trials; assumed risk 556 per 1000, corresponding risk 583 to 923 per 1000) and better QOL after treatment (QOLIE-31 score mean 172.6 points in the control group versus 184.64 points in the intervention group, MD 12.04 points, 95% CI 4.05 to 20.03 points, 1 trial). Compared with antiepileptic drugs, catgut implantation at acupoints plus antiepileptic drugs was not effective in achieving seizure freedom (13% in control group versus 19.6% in intervention group, RR 1.51, 95% CI 0.93 to 2.43, 4 trials; assumed risk 127 per 1000, corresponding risk 118 to 309 per 1000) but may be effective in achieving at least 50% reduction in seizure frequency (63.1% in control group versus 82% in intervention group, RR 1.42, 95% CI 1.07 to 1.89, 5 trials; assumed risk 444 per 1000, corresponding risk 475 to 840 per 1000) and better QOL after treatment (QOLIE-31 score (higher score indicated worse quality of life) mean 53.21 points in the control group versus 45.67 points in the intervention group, MD -7.54 points, 95% CI -14.47 to -0.61 points, 1 trial). Compared with valproate, catgut implantation may be effective in achieving seizure freedom (8% in control group versus 19.7% in intervention group, RR 2.82, 95% CI 1.61 to 4.94, 4 trials; assumed risk 82 per 1000, corresponding risk 132 to 406 per 1000) and better QOL after treatment (QOLIE-31 score (higher score indicated better quality of life) mean 172.6 points in the control group versus 191.33 points in the intervention group, MD 18.73 points, 95% CI 11.10 to 26.36 points, 1 trial) but not at least 50% reduction in seizure frequency (65.6% in control group versus 91.7% in intervention group, RR 1.31, 95% CI 0.94 to 1.84, 4 trials; assumed risk 721 per 1000, corresponding risk 677 to 1000 per 1000). Acupuncture did not have excess adverse events compared to control treatment in the included trials.
Authors' conclusions	Available RCTs are small, heterogeneous and have high risk of bias. The current evidence does not support acupuncture for treating epilepsy.

1.1.6. Cheuk 2008 Ø

Cheuk DK, Wong V. Acupuncture for epilepsy. Cochrane Database Syst Rev 2008. [160303]

Background	Seizures are poorly controlled in many people with epilepsy despite adequate current antiepileptic treatments. There is increasing interest in alternative therapies such as acupuncture; however, it remains unclear whether the existing evidence is rigorous enough to support the use of acupuncture. This is an update of a Cochrane review first published in 2006.
Objectives	To determine the effectiveness and safety of acupuncture in people with epilepsy.
Methods	Search strategy: We searched the Cochrane Epilepsy Group's Specialized Register (March 2008) and the Cochrane Central Register of Controlled Trials (CENTRAL) (The Cochrane Library Issue 1, 2008), MEDLINE, EMBASE, and other databases from inception to March 2008. Reference lists from relevant trials were reviewed. No language restrictions were imposed.
Methods	Selection criteria: Randomised controlled trials comparing acupuncture with placebo or sham treatment, antiepileptic drugs or no treatment; or comparing acupuncture plus other treatments with the same other treatments. involving people of any age with any type of epilepsy. Data COLLECTION AND ANALYSIS: Two review authors independently extracted trial data and assessed trial quality.
Main results	**Eleven small trials with 914 participants**, of generally poor methodological quality and with short follow up met the inclusion criteria. Ten trials were carried out in China and one in Norway. Two trials found that more children treated with needle acupuncture plus Chinese herbs achieved 75% or greater reduction in seizure frequency (RR 1.52, 95% CI 1.12 to 2.05) and 50% or greater reduction in seizure duration (pooled RR 1.29, 95% CI 1.03 to 1.62) compared with Chinese herbs alone. However, after combining the results of four trials that compared the treatment group with a control group that could yield the net effect of needle acupuncture, we found that there was no significant difference between the treatment and the control groups in any reduction of seizure frequency (pooled RR 1.05, 95% CI 0.97 to 1.17). Compared to phenytoin, the pooled results from two trials showed that patients who received needle acupuncture appeared more likely to achieve 75% or greater reduction in seizure frequency (pooled RR 2.14, 95% CI 1.47 to 3.1). Compared to valproate, the pooled results from three trials showed catgut implantation at acupoints appeared more likely to result in 75% or greater reduction in seizure frequency (pooled RR 2.33, 95% CI 1.01 to 5.36).
Authors' conclusions	The current evidence does not support acupuncture as a treatment for epilepsy.

1.1.7. Cheuk 2006 Ø

Cheuk D, Wong V. Acupuncture for epilepsy. Cochrane Database Syst Rev. 2006. [141211].

Background	Seizures are poorly controlled in many people with epilepsy despite adequate current antiepileptic treatments. There is increasing interest in alternative therapies such as acupuncture; however, it remains unclear whether the existing evidence is rigorous enough to support the use of acupuncture.
Objectives	To determine the effectiveness and safety of acupuncture in people with epilepsy.

Methods	Search strategy: We searched the Cochrane Epilepsy Group's Specialized Register (June 2005) and the Cochrane Central Register of Controlled Trials (CENTRAL) (The Cochrane Library Issue 3, 2005). We also searched MEDLINE, EMBASE, CINAHL, AMED, TCMLARS, China Biological Medicine Database, Chinese Acupuncture Trials Register, National Center for Complementary and Alternative Medicine, and National Institute of Health Clinical Trials Database from inception to June 2005. Reference lists from relevant trials were reviewed. No language restrictions were imposed. Selection criteria: Randomised controlled trials evaluating any form of acupuncture involving people of any age with any type of epilepsy were included. Trials included were those comparing acupuncture with placebo, sham or no treatment; or comparing acupuncture plus other treatments with the same other treatments. Trials that only compared different acupuncture methods or compared acupuncture alone with other treatments were excluded. Data collection and analysis: Two review authors independently extracted trial data and assessed trial quality using the Jadad score. Relative risk (RR) was used for binary data and weighted mean difference for continuous data, and 95% confidence intervals are given. Where possible, analyses were by intention to treat.
Main results	**Three small trials** of varying methodological quality and with short follow up met the inclusion criteria. Two studied children in China and one studied adults in Norway. The two Chinese studies compared acupuncture plus Chinese herbs with Chinese herbs alone while the Norwegian study compared acupuncture with sham acupuncture. The two Chinese studies found that more children treated with acupuncture achieved 75% or greater reduction in seizure frequency (RR 1.52, 95% CI 1.12 to 2.05) and seizure duration (RR 2.38, 95% CI 1.13 to 5) with a significant 50% or greater reduction in seizure duration (RR 1.36, 95% CI 1.07 to 1.73). However, the two trials were of low quality without adequate description of randomisation method, concealment of randomisation or blinding. On the other hand, the higher quality Norwegian trial found that acupuncture did not improve the mean seizure frequency, seizure-free weeks, or quality of life in adults.
Authors' conclusions	The current evidence does not support acupuncture as a treatment for epilepsy. Much larger high quality clinical trials employing appropriate controls are needed.

1.2. Special Acupuncture Techniques

1.2.1. Auricular acupuncture

1.2.1.1. Zhang 2024

Zhang Q, Luo X, Wang XH, Li JY, Qiu H, Yang DD. Transcutaneous auricular vagus nerve stimulation for epilepsy. Seizure. 2024 Jul;119:84-91. https://doi.org/10.1016/j.seizure.2024.05.005

Background	Several studies have suggested that transcutaneous vagus nerve stimulation (tVNS) may be effective for the treatment of epilepsy. However, auricular acupoint therapy (including auricular acupuncture and auricular point-sticking therapy), a method of stimulating the vagus nerve, has been poorly reviewed. This systematic review is the first to categorize auricular acupoint therapy as transcutaneous auricular vagus nerve stimulation (taVNS), aiming to assess the efficacy of taVNS in patients with epilepsy (PWE), and to analyse the results of animal experiments on the antiepileptic effects of taVNS.

Methods	MEDLINE, EMBASE, Web of Science, Scopus, and multiple Chinese databases were searched from inception to June 10, 2023. Nine clinical studies (total 788 PWE) and eight preclinical studies were included. Meta-analysis and systematic review were performed to assess the efficacy of taVNS in PWE and its association with electroencephalogram (EEG) changes. Preclinical outcomes included epileptic behaviour, latency of the first seizure, and seizure frequency. The PRISMA 2020 checklist was followed.
Results	taVNS showed a higher response rate in PWE than control treatments (OR = 2.94, 95% CI 1.94–4.46, P < 0.05). EEG changes were more extensive in the taVNS group than in controls (OR = 2.17, 95% CI 1.03–4.58, P < 0.05). Preclinical analyses demonstrated significant improvements in epileptic behaviour (SMD = −4.78, 95% CI −5.86 to −3.71, P < 0.05) and seizure frequency (SMD = −5.06, 95% CI −5.96 to −4.15, P < 0.05). No statistically significant difference was observed in latency to first seizure between groups.
Conclusion	Based on available evidence, PWE may benefit from taVNS. taVNS also demonstrates clear antiepileptic effects in animal models, supporting its potential as a non-invasive neuromodulatory intervention.

2. Clinical Practice Guidelines

⊕ positive recommendation (regardless of the level of evidence reported)
Ø negative recommendation (or lack of evidence)

2.1. Scottish Intercollegiate Guidelines Network (SIGN, Scotland) Ø

Diagnosis and management of epilepsy in adults. Scottish Intercollegiate Guidelines Network (SIGN). 2018:104P. [196113].

There is no consistent evidence to support, or definitively exclude, the use of any particular type of complementary therapy to improve seizure frequency in patients with epilepsy. Findings from systematic reviews covering a range of approaches including meditation techniques, acupuncture, cognitive behaviour therapy, yoga, and relaxation therapy, were inconsistent or not generalisable to a Scottish population (for example for acupuncture) and the quality of the included studies was often poor.